

India's Blue Economy: The Role of Maritime Law in Unlocking Sustainable Ocean Potential

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I. Abstract

India has a 7516 km long coastline, touching 13 states and union territories, and has a strategic position in the Indian Ocean due to its peninsular shape and location. These conditions bestow immense potential for harnessing the blue economy and making India an important part of international sustainable ocean governance. This blog looks into India's maritime laws and India's blue economy, where it stands along with challenges and opportunities the blue economy brings up to be tackled, and what plans India is moving forward with within this sector.

II. Introduction

What is Maritime Law?

Maritime law, or admiralty law, is the legal backbone of the Blue Economy and coastal issues of any country. These laws govern activities in navigable waters, including fishing, shipping, offshore energy projects, and marine conservation and research. They also include domestic legislation and international conventions to ensure the proper functioning of trade and national security.

Maritime law in India is guided by laws like The Indian Ports Act (1908), Maritime Zones of India Act (1981), Coastal Regulation Zone (CRZ), etc, addressing disputes and boosting its global maritime position and blue economy.

What is the Blue Economy?

Blue Economy refers to the sustainable use of ocean resources and the preservation of marine ecosystems. This sector covers fisheries, tourism, renewable energy, biotechnology, and transport. When the blue economy is integrated properly, it can contribute to goals like food security and climate resilience. India's key initiatives include alignment with global sustainable goals, port modernization, and the Sagarmala Project.

III. India's position in the world's blue economy

India has an important part in the global blue economy due to the following advantages:-

1. **Geopolitical Significance:-** The **Indian Ocean Region** is the hotspot of trade since it handles 95% of world trade by volume and 68% by value. Almost every country with a major economy uses this corridor for trade and transportation of vital goods like oil, petrol, natural gas, food grains, etc. India is located at the center; hence, it plays a critical role in preserving security and stability and even goes as far as maintaining naval and multilateral collaborations. Hence, India has a great geopolitical significance in the Indian Ocean.

2. **Marine Resources:-** India is greatly contributing to food security around the globe as it is the **second-largest fish producer and exporter of seafood globally**. In 2022, India produced 16 million tonnes in fisheries, contributing 8% to the world's fish production. India's Exclusive Economic Zones (EEZ) and Coastal Regulation Zones (CRZ) have immense potential in marine biodiversity, conservation, deep-sea exploration, and pharmaceuticals.
3. **Renewable Energy:-** Due to such a huge coastline, India has the potential to become a leader in the renewable sector. Particularly in tidal energy because of predictable tidal patterns along the coast of Khambhat and the Gulf of Kutch, both in the state of Gujarat. Therefore, the government has started with initiatives like *the National Offshore Wind Energy Policy*, along with various international collaborations. The National Offshore Wind Energy Policy is implemented under the Ministry of New and Renewable Energy (MNRE) and the National Institute of Wind Energy (NIWE), Chennai helps with resource assessments, surveys, and studies in EEZ, but most importantly, it demarcates blocks and helps developers set up offshore wind farms.

Facilitating Offshore Wind Energy in India (FOWIND) is a project administered from December 2013 to March 2018 by the Global Wind Energy Council (GWEC) and was funded by the European Union (EU), which helped India kickstart offshore wind energy and transition to clean power. This also helped identify Gujarat and Tamil Nadu as states with significant potential for offshore wind energy.¹

4. **Trade and Logistics Hub:-** Jawaharlal Nehru Port Trust (JNPT) is a great example of how well Indian Logistics Systems are working and act as key nodes in global trade networks. The case studies further examine how JNPT acts as the key node in the global trade network and its role in the blue economy.

IV. India's Maritime Law

A. India's Maritime **governance** consists of:-

1. **Domestic Laws:** India's domestic maritime laws cover port operations, shipping, and cargo, as well as transportation contracts, damage, delays, etc. They also look after seafarers' employment, safety, wages, disputes, customs, construction, and vessel repairs. Domestic Laws handle private shipping issues and are part of the country's national legislation, unlike International laws.

¹ [Ministry of New and Renewable Energy](#)

2. **International Conventions:** The International Maritime Organization (IMO) and the United Nations Convention on the Law of the Sea (UNCLOS) are international treaties that **establish** rules and standards on how the world's ocean resources are used. They outline India's maritime responsibilities, and India actively participates in IMO policy-making, influencing global maritime regulations.
3. **Regional cooperation:-** Since India is peninsular, the Indian Ocean falls to the south of the Indian subcontinent and is part of a strategically important region called the **Indo-Pacific Region (IPR)**, which is the space between the Indian Ocean and the Pacific Ocean, joined by a trading channel, the Malacca Strait. It holds nearly 2/3rds of the global economy and over half the world's population.



Image 1: Indo-Pacific Region²

India is the leading **Indo-Pacific Oceans Initiative (IPOI)**, which addresses economic, development, and environmental challenges in the region and it aligns initiatives with common goals of security and development with regional partners like Japan, South Korea, and Australia along with encouraging participation of Gulf Cooperation Council countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE) to promote a balanced framework in the international waterbody.³

² [Indo-Pacific Region](#)

³ [Indo-Pacific Oceans Initiative](#)

B. Key Role of Maritime Laws:-

1. **Resource Management:-** The **Maritime Zones of India Act (1981)** defines India's Exclusive Economic Zone (EEZ), which is the 18th largest in the world. This Act enables sustainable fishing, mining, or energy projects and lays down the rules and regulations.
2. **Facilitating Trade:-** The **Indian Ports Act (1908)** and **Major Ports Authority (2021)** govern and oversee trade, ensuring efficient trade.
3. **Combating Illegal Activities:** These laws tackle issues like illegal fishing, unregulated fishing, human trafficking, or smuggling are tackled through these laws to ensure India's compliance with international standards.
4. **Promoting Clean Energy Resources:-** The Government is supporting the clean energy transition with the help of incentives, favorable policies, and mandates to promote renewable energy resources in India. To aid on this on 6th June 2022 Ministry of Power (MoP) notified the Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules, 2022, allowing consumers with a contracted demand or sanctioned load of 100 kilowatts or more, whether through a single connection or multiple connections equating to 100 kilowatts or more located in the same electricity division of a distribution licensee, to procure power through green open access.

In the last year, Maharashtra, Karnataka, Punjab, and Madhya Pradesh have adopted these changes, and other states are changing their regulations.⁴

5. **Ecosystem Protection:-** The **Coastal Regulation Zone (CRZ) Rules** protect India's sensitive coastal areas of seas, bays, creeks, rivers, and backwaters, which are influenced by tides from the High Tide Line (HTL). CRZ laws are divided into 4 categories - CRZ I to CRZ IV- governed by the Ministry of Environment, Forests, and Climate Change (MoEFCC). The CRZ Rules are made by the Union Environment Ministry, but it is the State Government's Coastal Zone Management Authorities that ensure proper implementation. The image below explains the four categories of CRZ.

⁴ [Energy laws and regulations](#)

Coastal Zone Regulations

CRZ - I

Ecologically Sensitive Areas

CRZ-II

Urban (developed) areas up to the shoreline of the coast

CRZ-III

Rural and urban areas which fall outside CRZ-I and CRZ-II

CRZ-III (Rural Area)

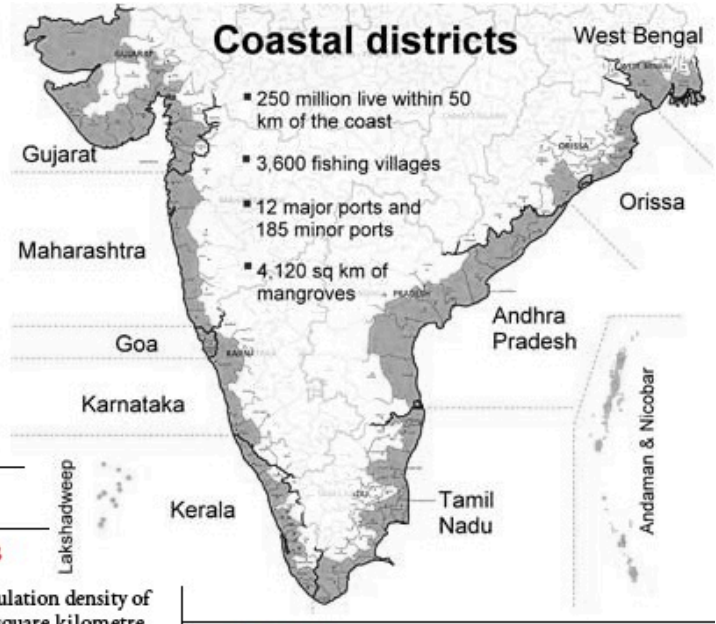
CRZ-III A

Densely populated areas with a population density of 2161 per square kilometre. A NDZ of 50 meters from HTL.

CRZ-III B

Areas with population density of below 2161 per square kilometre. A NDZ of 200 meters from HTL.

Coastal districts



CRZ - IV

Aquatic areas up to territorial limits

Image 2: CRZ Categories⁵

C. Issues India's Maritime Law faces **concerning** the blue economy:-

- 1. The Indian Ports Act (1908):-** This Act governs the management, operation, safety, maintenance, traffic regulations, and development of ports in India. However, this act is considered outdated, and the **Major Ports Authority Act (2021)** was supplemented to modernize governance on February 17, 2021, which came into force on November 03, 2021.⁶ This allows the Port Authority to fix tariffs and rates for other port services, and since tariffs act as a reference tariff for bidding for PPP (public-private partnership), the Port Authority is a decision-making and negotiating body, settling disputes as well. The Board of Trustees is retained from the Old Act, now renamed as the Board of Major Port Authority, but the number of members is reduced to 13 instead of 19 members to facilitate efficient decision-making.⁷
- 2. Maritime Zones of India Act (1981):-** This Act defines India's Exclusive Economic Zone (EEZ) but lacks clarity in EEZ Governance, leading to resource exploitation, overlapping claims with neighboring countries, etc.

⁵ [CRZ Categories](#)

⁶ [9 years of Maritime-Led Prosperity](#)

⁷ [Maritime Legislation in India](#)

3. **Coastal Regulation Zone (CRZ):-** These rules were implemented to protect India's ecosystem by regulating developing activities near the coast, but the sustainable goals are often sidelined. In July 2020, building debris from the old D5 Marina police station was dumped in the notified turtle nesting area on Marina Beach, Chennai. The beach falls under CRZ 1(A), where activities like dumping of construction waste are strictly prohibited.⁸ Flagship projects like Sagarmala, Bharatmala, or projects under CEZs themselves are exempt from CRZ rules since they are strategic projects of the government, which is heavily criticized.
4. **Merchant Shipping Act (1958):-** This Act ensures the safety of ships, their crew, and cargo, and provides guidelines to resolve disputes, and prevents marine pollution, but there have been **gaps in implementation, and it needs revision** to bring this Act in conformity with international conventions of International Maritime Organisation. An attempt to revise the Act in 2016 by introducing the **Merchant Shipping Bill, 2016** fell through because the Parliamentary Standing Committee in its 246th report remarked that the bill had many loopholes and could lead to multiple interpretations and recommended a revision to remove loopholes. The bill was redrafted by the Ministry of Ports, Shipping, and Waterways in 2020 for public consultation, the primary aim of the bill is to grow the Indian Shipping Industry by adopting best practices from countries like Japan, Singapore, and Australia.⁹
5. **Indian Ocean Region (IOR):** It consists of countries bordering the Indian Ocean and is strategically important to India, but it also leads to disputes in fishing and territorial rights. Further, weakening shared resources with neighboring countries affects the blue economy.
6. The Indian Navy, Coast Guard, and local authorities share responsibilities and have **overlapping jurisdictions**, leading to a lack of cooperation and complicating the enforcement of illegal activities. The **Major Ports Act, 2021** has been cut down from 134 sections to 76 sections only to tackle this problem, but this is only one of many Acts, there are still many laws causing overlapping of jurisdictions.

⁸ [Indian Express](#)

⁹ [Maritime Legislation in India](#)

V. Challenges and opportunities India faces

A. Challenges

1. **Overfishing and Resource Depletion:-** Unregulated and Illegal Fishing practices threaten livelihoods and marine biodiversity. For example, Overfishing and harmful fishing practices like the use of **mechanized trawlers** have caused fish stock depletion in the coastal areas of Tamil Nadu, Kerala, and Andhra Pradesh. Additionally, the Konkan Region (parts of Goa and Maharashtra) and the Sundarbans Region (West Bengal) face resource depletion due to **recreational, commercial, and local fishing**. Whereas, the Gujarat coast's main issue is **bycatch** (unintentional or accidental capture of a specific species or size).
2. **Climate Change Impacts:-** Rising sea levels are altering marine ecosystems, most importantly affecting coastal communities and further increasing the challenges faced by ocean-dependent industries. As a result, the Sundarbans are losing their mangroves and biodiversity.
3. **Marine Pollution:-** Nearly **3.5 million tons of plastic waste are annually generated in India**, industrial waste, untreated waste, etc, end up in the ocean, impacting coastal tourism and public health. For example, the December 21, 2023, oil spill in Ennore, Chennai, affected 2,301 fishermen and around 800 boats, leaving fishing communities struggling with their livelihood. The oil spillage has also impacted the region's mangroves, which are important breeding grounds for fish and marine ecosystems.
4. **Weak Monitoring:-** Maritime laws are not effectively implemented in India, and one of the most vital reasons is the huge coastline and lack of proper surveillance infrastructure. This leads to unregulated fishing, smuggling, and marine trafficking.
5. **Conflicts:** Conflicts can occur due to differences in economic development plans and rights of the local population, or even sometimes between two countries. For example, in the **South China Sea dispute**, India is not directly involved, but this issue is of great importance internationally. However, India has a **diplomatic dispute with Sri Lanka** over the recurrent arrests of Indian fishermen and violation of the International Maritime Boundary Line (IMBL).

Indian fishermen stray into Sri Lankan waters mostly due to engine failures or sudden weather changes, and overfishing in the Indian Waters. Sri Lankan authorities destroy and confiscate fishing vessels even after the release of fishermen, leading to tensions.

IMBL (as per UNCLOS) is an official boundary that separates territorial waters, defines maritime jurisdiction, regulates fishing, resource use, and other activities. While the **Palk Bay** has been equally divided between the two nations, fishing rights are disputed based on traditional practice, as Indian fishermen claim fishing rights beyond the IMBL. Sri Lanka has expressed concern over the depletion of fish stocks and views Indian fishermen's overfishing as “**poaching**” and that it is threatening local livelihood. The most important concern of the Sri Lankan authorities is the **potential resurgence of Tamil Militant groups**, and that Indian trawlers could potentially provide them a chance to regroup, as allegedly Indian trawlers intrude regularly in a coordinated manner.

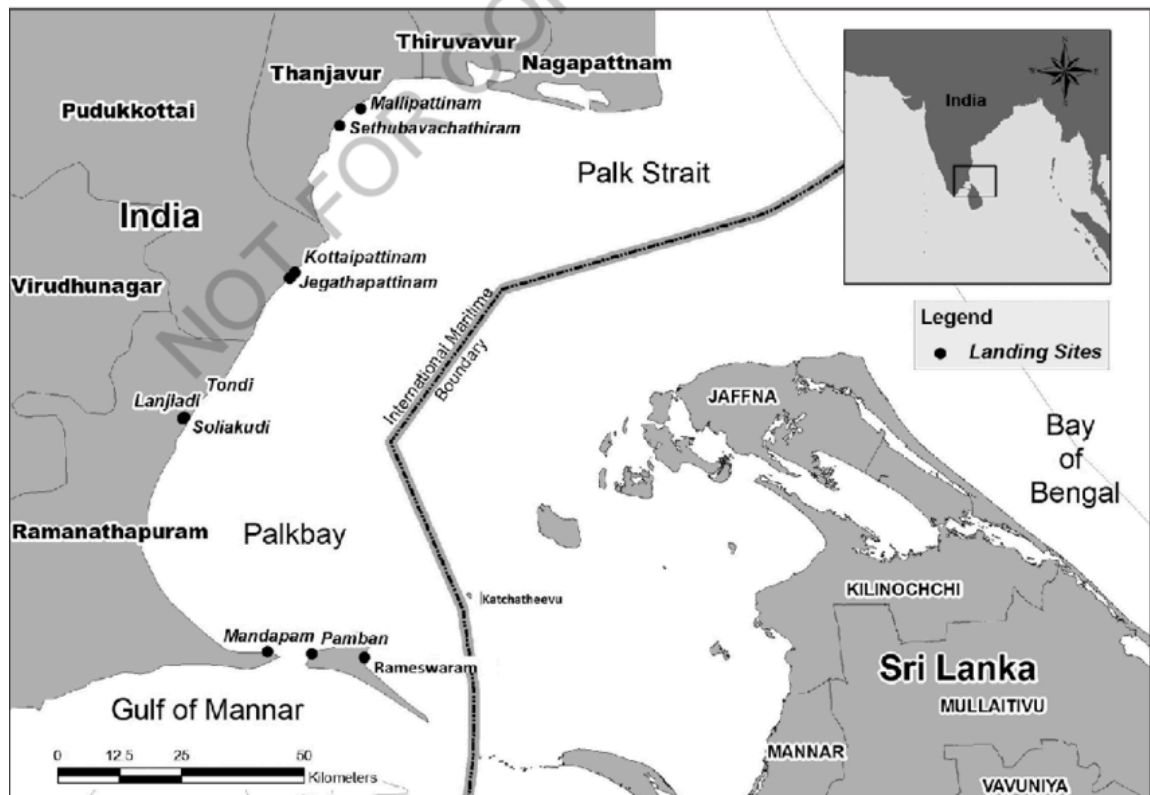


Image 3: Plak Bay¹⁰

The Political Implications of this Fishing Conflict has influenced India abstaining from voting on a United Nations’ resolutions about Human Rights issue in Sri Lanka. Economically, Sri Lanka alleges an annual estimated loss of **730 million dollars** due to Indian poaching and reduced fishery resources.

Indian fishermen in search of further fishery stocks are now also being arrested in the Maldivian waters, and in the British Waters (Diego Garcia) for allegedly violating their maritime boundaries.

¹⁰ [Plak Bay](#)

B. Opportunities - Despite the challenges mentioned earlier, there are **recommendations** for sustainable development.

1. **Sustainable practices:-** Such a vast coastline has the potential for tidal and offshore energy, which will be of great help to reduce India's dependence on fossil fuels and further promote the government's renewable energy projects (also job creation and investment in the blue economy.) The **National Offshore Wind Energy Policy** is one such project by the government. **Banning of destructive fishing practices** like bottom trawling, which damages the seafloor, fish breeding, such impact takes thousands of years to recover. Encouraging and involving local fishing communities in decision-making and conservation efforts.
2. **Empowering Coastal Communities:-** Initiatives like community-led conservation efforts and livelihood diversification will prioritize coastal communities and also help in sustainable development. Coastal states sharing international waters can provide the fishermen community with **alternative livelihoods** in the eco-tourism sector, seaweed farming, etc, to combat the issue of Indian fishermen from venturing into international waters. The government should also ensure that fishing communities have access to social security schemes.
3. **Collaboration and strengthening of Public-Private Partnerships (PPPs):-** PPPs are helpful in renewable energy projects, modernizing ports, and increasing eco-tourism. Imposing high and strict retribution for industrial discharge and oil spills. Setting up recycling hubs and waste collection centers in coastal areas with the help of PPPs and abiding by the public and companies to follow through.
4. **Global Collaboration:-** By collaborating with neighboring countries and global organizations, India can strengthen its role in international maritime governance, for example, in the Indian Ocean Region. This strengthening can help address issues like weak security and resource depletion via **Joint Working Groups (JWG)** to facilitate continuous dialogue between nations and **Joint Marine Resource Management** to prevent overexploitation of marine ecosystems, respectively. Increasing coastal security infrastructure in the IOR, along with training the enforcement agencies to monitor illegal activities and to ensure proper implementation of IMBL, especially with Sri Lanka.
5. **Exploring Blue Economy Sectors:-** India has a huge potential (due to its vast coastline) to emerge in industries such as marine technology and seabed mining. With proper research and implementation, these sectors can create employment opportunities and revenue. **Deep-Sea Fishing** should be adopted by the Indian Government, enabling fishers to reduce the use of environmentally harmful trawlers and avoid venturing into the High seas.

VI. India's Vision for the Future

“To me, the blue chakra or wheel in India’s national flag represents the potential of the Blue Revolution or the Ocean Economy. That is how central the Ocean Economy is to us.” – Prime Minister Narendra Modi.

India’s Vision for the future of the blue economy aligns with the goals of the **United Nations’ Sustainable Development Goal 14: “Life Below Water.”** Internationally, India has a strong presence in the Indo-Pacific, especially through its commitments to the United Nations Convention on the Law of the Sea (UNCLOS) and diplomatic treaties. As a result, India has great relations with Australia, a major partner in the blue economy, especially in the aquaculture sector. India is also collaborating with France in marine sciences, and with Bangladesh, India exchanges expertise on skill development. Minerals and fisheries are two critical components of the blue economy and of great commercial importance to India, in this backdrop, India attained exclusive rights from the United Nations in 1987 to carry out deep-sea explorations of **polymetallic sulfides** and **polymetallic nodules** in the Central Indian Ocean Basin, where it has two mines and is currently expanding on the area explored.

India is planning to increase coastal shipping by 6%, mostly till 2035, mainly through various Jawaharlal Nehru Port Trust (JNPT) initiatives. India is also looking to duplicate Kerala’s backwater tours and improve the infrastructure on the Brahmaputra River to develop inland water transport.¹¹

VII. Case Studies

Jawaharlal Nehru Port Trust (JNPT) was commissioned on May 26, 1989, in Navi Mumbai, Maharashtra. In less than three decades, JNPT has become India’s largest container port, handling **50%** of the country's containerized cargo. It connects more than 200 ports worldwide and has direct shipping links to Southeast Asia, Taiwan, and Malaysia. JNPT ranks 26th among the top 100 container ports in the world.

The port uses **shore power systems** to reduce carbon emissions from ships. JNPT is a prime example of harnessing trade practices and sustainable practices. JNPT has received the **Zero Emission Trucking and Sustainability Initiatives Award** under the Best Emission Practice in Ports category at the Construction Times Award 2024 (Image 1) and the 2024 Blue Planet **Award for Sustainability Excellence in Tier 1 Facility Operations in Ports** (Image 2). Showing JNPT’s dedication towards sustainable practices, today, nearly 34% of the port is under green cover and is a Green Port.

¹¹ [India and the Blue Economy: Challenges and Way Forward](#)



*Image 4*¹²



*Image 5*¹³

JNPT aims to raise ₹4,000 crore in investment for its Special Economic Zone (SEZ) under the Sagarmala Project.

The Sagarmala Project is a government initiative launched in 2015, focusing on **modernizing ports** and bringing port-led prosperity to Indian water-based trade. **Sagarmala would be delivered through 400 projects over 20 years**, including the **National Waterway-1 (NW-1)** on the Ganga River, which provides an eco-friendly logistics method, as part of 6 projects promoting Inland Waterways worth ₹635 crore.¹⁴ Modernizing ports also leads to a boost in clusters of industries, contributing to economic growth. This project is expected to save around **₹40,000 crore annually** in logistics, create **10 million jobs indirectly**, and increase coastal shipping's share in logistics from 6% to 12% in the coming years.

This project has 6 main “opportunities” to work with in the future:-

1. Saving 40,000 crores per year in logistics.
2. To improve export competitiveness by reducing logistics costs
3. Building the right port capacities at the right places and optimizing capital worth ₹1 crore.
4. To make India a global force in container transshipment.
5. Ensuring the economic well-being of coastal communities.
6. Providing port access and industrial clusters to non-coastal states. Some industries have already been proposed, for example, the Furniture Cluster in Assam or the Leather Cluster in Uttar Pradesh

¹² [Zero Emission Trucking and Sustainability Initiatives Award](#)

¹³ [Award for Sustainability Excellence in Tier 1 Facility Operations in Ports](#)

¹⁴ [SAGARMALA PROJECT](#)

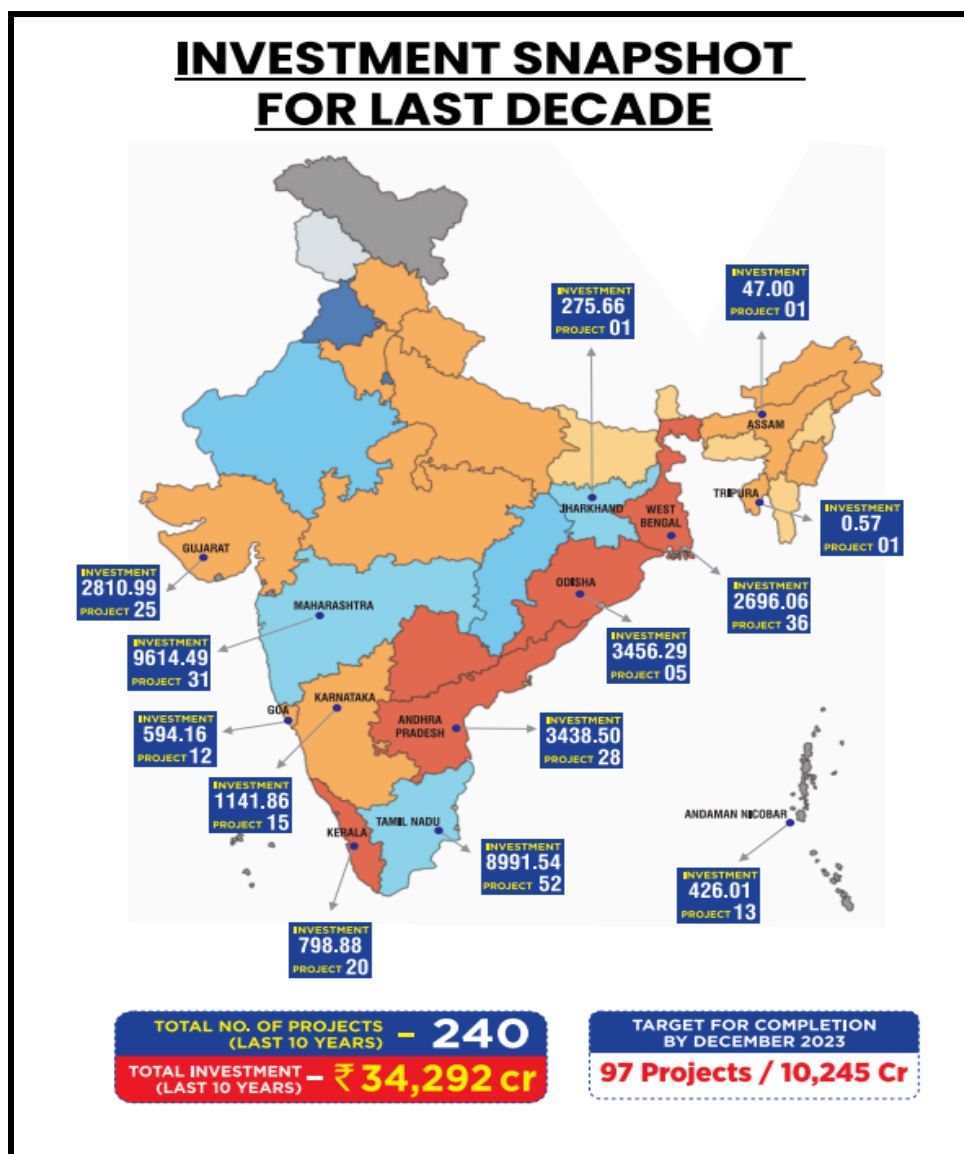


Image 6

The government has invested in about 97 Projects worth 10,245 crore till 2023.¹⁵

VIII. Conclusion

In summary, India's geographical position in the Indian Ocean helps shape the blue economy and emphasizes the sustainable use of ocean resources for economic and ecological development. India has a strong legal framework. The JNPT Port is flourishing and is already taking up ambitious initiatives like the Sagarmala Project to harness its coastal and marine resources into economic assets while keeping the sustainability of the environment in mind. Nonetheless, challenges such as overfishing, marine pollution, regulatory gaps, and

¹⁵ [9 Years of Maritime-Led Prosperity](#)

climate change prevail despite addressing these with more enhanced regulations and stronger public-private relationships.

India's commitment highlights its resilience by positioning its vision with global goals and continuing strategic planning to be a global leader in the blue economy with its potential, which is not impossible. Considering how some of India's policies in recent times are being discussed and even adopted in the South Asian context of this sector. India can sustainably have economic development, all while protecting oceanic resources for future generations.

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